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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,924	08/06/2001	Omar C. Baldonado	24717-706	9472

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EXAMINER

NGUYEN, DUSTIN

ART UNIT	PAPER NUMBER
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2154

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/923,924	BALDONADO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dustin Nguyen	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 23-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/27/2006, 12/04/2006</u>                                    | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-10 and 23-32 are presented for examination.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/26/2006 has been entered.

#### ***Response to Arguments***

3. Applicant's arguments filed 11/09/2006 have been fully considered but they are not persuasive.
4. As per remarks, Applicants argued that (1) Ahuja does not disclose generating application-specific performance scores in claim 1.
5. As to point (1), noted that the claimed limitation for claim 1 does not claim the method step of generating application-specific performance scores. As for the method step of calculating

Art Unit: 2154

a plurality of application-specific performance scores, Ahuja discloses this limitation as rejected in the Office Action below [ i.e. if other variables are deemed relevant to the route selection process, such as type of traffic, then they should also be made available to routing optimization component ] [ col 5, lines 23-26; and col 12, lines 4-7 ].

6. As per remarks, Applicants argued that (2) Ahuja and Sistanizadeh do not disclose the amended limitations of “a rank of the update request in the queue is dependent on a computed improvement of the superior performance score over a previous performance score” and “wherein a performance score from the plurality of performance scores is determined by unpacking the group into component prefixes and generating performance scores for each of the component prefixes”.

7. As to point (2), they are rejected for reasons as stated in the Office Action below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2154

8. Claims 1-5, 7-10, 23-26, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al. [ US Patent No 6,981,055 ] in view of Ma [ US Patent No 7,123,620 ].

9. As per claim 1, Ahuja discloses a method of routing data flow traversing one or more routers in an internetwork [ i.e. core or edge routers ] [ 604, Figure 18; 704, Figure 19; col 18, lines 60-67; and col 19, lines 32-35 ], wherein the one or more routers are coupled to a plurality of service provider access links [ Figure 17; and col 17, lines 40-62 ], the method comprising:

determining a prefix for the data flow [ i.e. determine path selection for each prefix ] [ col 1, lines 50-52; and col 19, lines 5-8 ];

calculating a plurality of application-specific performance scores for the plurality of service provider access links [ i.e. measure performance of paths and types of traffic ] [ col 3, lines 12-20; col 5, lines 5-14 and lines 23-26; and col 12, lines 4-7 ], each of the plurality of performance scores indicating performance of a route from a router of the one or more routers to the prefix via a distinct service provider access link from the plurality of service provider access links [ i.e. routing table ] [ Figures 9, 11-14; col 12, lines 49-60; and col 13, lines 1-30 ];

detecting a current service provider access link for the prefix, the current service provider access link corresponding to a current route to the prefix specified by a routing protocol, the current service provider access link having a performance score from the plurality of service provider access links [ i.e. start routing table or OldValue ] [ col 15, lines 2-5; and col 15, lines 29-col 16, lines 14 ]; and

selecting a new service provider access link from the plurality of service provider access links for routing the data flow to the prefix [ i.e. new routing table or NewValue ] [ col 14, lines 51-col 15, lines 15; and col 16, lines 7-14 ], wherein the new server provider access link has a performance score from the plurality of performance scores superior to the performance score for the current service provider access link [ i.e. finding superior combinations of routes ] [ col 3, lines 1-7; and col 7, lines 6-13 ].

Ahuja does not specifically disclose wherein the prefix corresponds to an application selectable from a plurality of applications.

Ma discloses wherein the prefix corresponds to an application selectable from a plurality of applications [ i.e. quality of service (QOS) or class of applications ] [ col 4, lines 40-43; and col 12, lines 38-60 ].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja and Ma because the teaching of Ma would provide routing protocol independently, scalable, and dynamic, and it can support both class-based and flow-based explicit routes [ Ma, col 6, lines 49-54 ].

10. As per claim 2, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links [ i.e. latency ] [ col 6, lines 13-34 ].

11. As per claim 3, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon jitter measurements across the plurality of service provider access links

Art Unit: 2154

[ i.e. network condition or changes in physical medium ] [ col 8, lines 10-15; and col 14, lines 59-62 ].

12. As per claim 4, Ahuja discloses wherein the plurality of performance measurement scores is at least partially dependent upon loss measurements across the plurality of service provider access links [ i.e. packet loss ] [ col 3, lines 12-20 ].

13. As per claim 5, Ahuja discloses wherein each of the plurality of performance scores comprises a scalar value [ i.e. cost function ] [ col 14, lines 7-49 ].

14. As per claim 7, Ahuja does not specifically disclose wherein the plurality of performance scores is customized for video traffic. Ma discloses wherein the plurality of performance scores is customized for video traffic [ Abstract ]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja and Ma because the teaching of Ma would provide routing protocol independently, scalable, and dynamic, and it can support both class-based and flow-based explicit routes [ Ma, col 6, lines 49-54 ].

15. As per claim 8, Ahuja discloses wherein the plurality of performance scores is customized for VoIP traffic [ col 5, lines 22-25 ].

16. As per claim 9, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon interface load measurements [ i.e. balancing load ] [ col 13, lines 1-20 ].

17. As per claim 10, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon user configurable weights [ col 9, lines 7-19 ].

18. As per claim 23, Ahuja discloses transmitting the selected new service provider access link to the one or more routers [ i.e. communicate ] [ col 3, lines 36-40 ].

19. As per claim 24, Ahuja discloses wherein the selected new service provider access link is transmitted using a Border Gateway Protocol update message [ col 1, lines 63-67 ].

20. As per claim 25, Ahuja discloses wherein selecting a new service provider access link comprises comparing a best route to a default BGP route [ i.e. finding an optimal route ] [ Abstract; and col 2, lines 16-18 ].

21. As per claim 26, it is rejected for similar reasons as stated above in claims 1, 7 and 8.

22. As per claim 30, Ahuja discloses wherein selecting a new service provider access link depends on a difference between a performance score of the new service provider access link and a performance score of the current service provider access link [ col 16, lines 7-14 ].



Art Unit: 2154

23. As per claim 31, Ahuja discloses assessing a penalty to a performance score for at least one of the current service provider access link and the new service provider access link [ col 2, lines 14-18 ].

24. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al. [ US Patent No 6,981,055 ], in view of Ma [ US Patent No 7,123,620 ], and further in view of Gossett Dalton, Jr. et al. [ US Patent No 6,426,955 ].

25. As per claim 6, Ahuja and Ma do not specifically disclose wherein the plurality of performance scores is customized for HTTP traffic. Gossett Dalton discloses wherein the plurality of performance scores is customized for HTTP traffic [ col 9, lines 39-51 ]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja, Ma and Gossett Dalton because Gossett Dalton's teaching of different traffic types would allow to expand the capability of the system to improve performance.

26. Claims 27-29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al. [ US Patent No 6,981,055 ] in view of Sistanizadeh et al. [ US Patent No 6,963,575 ].

27. As per claim 27, Ahuja discloses the invention as claimed including a method for routing from a source node to a group of destination nodes having a common prefix comprising:

Art Unit: 2154

generating a plurality of performance scores for a plurality of routes from the source node to the group of destination nodes [ i.e. measure performance of paths and types of traffic ] [ col 3, lines 12-20; col 5, lines 5-14 and lines 23-26; and col 12, lines 4-7 ], each performance score corresponding to an access link from one or more access links [ i.e. routing table ] [ Figures 9, 11-14; col 12, lines 49-60; and col 13, lines 1-30 ];

determining a superior performance score from the plurality of performance scores [ i.e. finding superior combinations of routes ] [ col 3, lines 1-7; and col 7, lines 6-13 ].

Ahuja does not specifically disclose a implementing a route update request according to a priority queue, wherein the route update request corresponds to the superior performance score, further wherein the priority queue prioritizes received route update requests according to urgency and implements the route update request according to a frequency of a previously implemented route update request, and a rank of the update request in the queue is dependent on a computed improvement of the superior performance score over a previous performance score; and configuring a router to select an access link corresponding to the route update request.

Sistanizadeh discloses a implementing a route update request according to a priority queue [ i.e. assign different priority levels to these different classes ] [ col 6, lines 42-47; and col 18, lines 43-58 ], wherein the route update request corresponds to the superior performance score [ i.e. best path for routing or best cost parameter ] [ col 8, lines 26-32; and col 27, lines 50-53 ], further wherein the priority queue prioritizes received route update requests according to urgency [ i.e. time critical traffic ] [ col 18, lines 49-62 ] and implements the route update request according to a frequency of a previously implemented route update request [ col 29, lines 53-63 ], and a rank of the update request in the queue is dependent on a computed improvement of the

Art Unit: 2154

superior performance score over a previous performance score [ col 26, lines 9-20 ]; and configuring a router to select an access link corresponding to the route update request [ i.e. select the best path for each communication ] [ col 11, lines 18-23 ]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja and Sistanizabeh because Sistanizabeh's teaching of routing update would allow traffic to take the redundant paths through the network in the case of failure of network components and still provide service at the guaranteed levels, for the duration of the fault [ Sistanizabeh, col 21, lines 10-14 ].

28. As per claim 28, Ahuja discloses transmitting data related to a route containing the selected access link to the one or more access links [ i.e. communicate ] [ col 3, lines 36-40 ].

29. As per claim 29, Ahuja discloses wherein the data comprises network layer reachability information [ col 1, lines 30-41 ].

30. As per claim 32, it is rejected for similar reasons as stated above in claim 27.

Furthermore, Ahuja discloses wherein a performance score from the plurality of performance scores is determined by unpacking the group into component prefixes and generating performance scores for each of the component prefixes [ i.e. deaggregating prefix sets into subsets and treating the subsets in the same fashion ] [ col 10, lines 8-28 ]. Ahuja does not specifically disclose transmitting a routing change corresponding to the route update request to one ore more routers along the routes to route data along an access link. Sistanizadeh discloses

Art Unit: 2154

transmitting a routing change corresponding to the route update request to one or more routers along the routes to route data along an access link [ i.e. notify neighboring switches ] [ col 15, lines 45-51; and col 24, lines 38-47 ]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja and Sistanizabeh because Sistanizabeh's teaching of routing update would allow traffic to take the redundant paths through the network in the case of failure of network components and still provide service at the guaranteed levels, for the duration of the fault [ Sistanizabeh, col 21, lines 10-14 ].

31. Applicant's arguments with respect to claims 1-10, 23-26, 30 and 31 have been considered but are moot in view of the new ground(s) of rejection.

32. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (571) 272-3971. The examiner can normally be reached on flex schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Follansbee John can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2154

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dustin Nguyen  
Examiner  
Art Unit 2154

A handwritten signature in black ink, appearing to read 'Dustin', is written over a horizontal line.